INSURANCE INJURY REPORT

Passenger Cars, Vans,
Pickups, and Utility Vehicles

Highway Loss Data Institute
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Insurance Injury Report

1983-1985 Models
HLDI I85-1

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SUMMARY

This Highway Loss Data Institute (HLDI) report presents the frequency of claims for injuries to occupants of 1983, 1984, and 1985 model year passenger cars, vans, pickup trucks, and utility vehicles. Results are shown separately for all injury claims and for those claims for which the medical losses exceeded $250, $500, and $1,000.

Principal Findings

Passenger Cars

- Eleven of the 13 cars with the best results (more than 40 percent better than average) were large, and 11 of them were manufactured in the United States, seven by General Motors.
- All of the 14 cars with the worst results (more than 40 percent worse than average) were small. Both the two-door and four-door versions of the Chevrolet Chevette and Nissan Sentra were among the cars with the worst results. Eight were imported models, all of them from Japan.
- Among the cars with the best injury experience, the Pontiac Parisienne station wagon had the lowest overall claim frequency (50 percent below average). The Oldsmobile Custom Cruiser had the lowest frequency of claims exceeding $250 (47 percent below average). The midsize Volvo 240 station wagon had the lowest frequency of claims greater than $500 (51 percent below average). The Plymouth Voyager had the lowest frequency of claims greater than $1,000 (49 percent below average).
- Among the cars with the worst injury loss experience, the Mitsubishi Tredia had the highest overall injury claim frequency (62 percent above average) and the highest frequency of claims exceeding $250 (77 percent above average). The two-door Chevrolet Chevette had the highest frequency of claims exceeding $500 (71 percent above average). The two-door Chevrolet Chevette and four-door Nissan Sentra had the highest frequency of claims greater than $1,000 (63 percent above average).
- As a group, small cars had the worst results, and large cars had the best, but this size relationship does not hold for every vehicle series because of considerable variation within size groups. For example, among small two-door models, there was more than a twofold difference between the overall claim frequencies of the Saab 900 and Chevrolet Chevette. Especially noteworthy were the Saab 900 two- and four-door models — small cars with better results than *any midsize* two- or four-door model.

Vans, Pickups, Utility Vehicles

- Vans, pickups, and utility vehicles as a group had better injury results than the average results for passenger cars.
- Among this group, large utility vehicles had the best injury experience, and small utility vehicles had the worst.
- The GMC C1500/K1500 Suburban, Chevrolet C20/K20 Suburban, Chevrolet C10/K10 Suburban, GMC G2500 Vandura, Ford E-150 Club Wagon, and GMC C2500/K2500 had the lowest overall injury claim frequencies. The Toyota standard bed pickup truck had the highest frequency.
- Injury claim frequencies were closely related to vehicle size, with the larger vehicles having lower claim frequencies.

INTRODUCTION

The Highway Loss Data Institute (HLDI) is a nonprofit, public service organization that gathers, processes, and publishes insurance data concerned with human and economic losses associated with motor vehicle use, especially with the ways such losses vary among different kinds of vehicles.

This report compares the frequencies of claims for injuries to occupants of 1983 through 1985 model year passenger cars, vans, pickup trucks, and utility vehicles. In addition to the frequencies of all claims, frequencies are given separately for claims with medical payments exceeding $250, $500, and $1,000. The results are given for individual vehicle series as well as for various groupings based on vehicle size and body style.

In calculating injury claim frequencies, all injuries in a crash-involved car resulting in claims for medical expenses made under personal injury protection insurance coverages are counted as a single claim. A description of these first-party coverages, which principally insure against medical losses to occupants of the insured cars themselves, is given in Appendix A. The data analysis methods used in the preparation of this report are detailed in Appendix B. Definitions are given in Appendix C, and Appendix D contains a complete list of the vehicles covered by this report. The data used were supplied by 13 insurers: Aetna, Allstate, Fireman's Fund, GEICO, Kemper, Liberty Mutual, Nationwide, Prudential, Safeco, Sentry, State Farm, Travelers, and USAA.

This report is based on injury coverages and injury claims involving 1983 through 1985 models in the period from their introductions through December 1985. It does not include the results for vehicles discontinued prior to the 1985 model year.

It is intended that the dissemination of this and other HLDI reports will contribute to research into ways for reducing vehicle-related damage to people and property, and provide the public with information relating to the differences in the crash damage produced by different kinds of vehicles.

RESULTS AND DISCUSSION

This report presents injury claim frequency results for 1983-85 model year vehicles. Results are presented in two sections: the first summarizes the results for passenger cars and the second for vans, pickup trucks, and utility vehicles. The frequency of all injury claims and the frequencies of claims with medical payments exceeding $250, $500, and $1,000 are shown for those vehicles with sufficient exposure.* The results for the larger medical claims categories indicate the frequency of occurrence of increasingly severe injuries. Each claim frequency result, whether for passenger cars, vans, pickups, or utility vehicles, is presented in relative terms, with 100 representing the claim frequency for *all passenger cars combined* in each claim size category.

The relative injury claims experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. HLDI recently published the results of a statistical analysis (HLDI Report A-26) for selected 1981-83 passenger cars that demonstrated that the injury results of individual model year vehicles were generally consistent across model years when the basic vehicle designs remained the same. Because of the general consistency of injury results from model year to model year and because substantial amounts of exposure are needed to produce reliable injury claim frequency results, the data for model years 1983-85 were combined for those vehicles with basic designs that remained unchanged. Vehicle series that were discontinued prior to 1985 (such as the Pontiac Phoenix and Oldsmobile Omega, which were both produced only through model year 1984) are not included. Vehicle series that were redesigned in 1985 (such as the Volkswagen Jetta and Nissan Maxima) are included in the report for model year 1985 only. Newly introduced vehicles (such as the Chevrolet Celebrity station wagon in 1984 and Buick Somerset in 1985) are also included. For each vehicle series and each vehicle subgroup, a separate relative claim frequency was calculated for each model year. The overall result for each vehicle series was then obtained by weighting these relative claim frequencies by the applicable exposure for each model year. (For additional explanation of this procedure, see Appendix B.)

Beginning with model year 1987, the federal government is requiring automobile manufacturers to install front-seat automatic restraint systems—either automatic belts or air bags—in 10 percent of their passenger cars. The percentage of vehicles covered by the regulation increases for successive model years to 100 percent for 1990 model year cars. Some manufacturers have already made these systems available on some of their car lines. A small percentage of 1984 and 1985 Mercedes Benz models were equipped with driver-side air bag systems, and a small percentage of 1985 Volkswagen Golf models were equipped with automatic seat belt systems, but in this report, the results for these vehicles are predominantly for cars with conventional lap/shoulder belt restraint systems. The increasing availability of automatic restraints is expected to increase the number of occupants protected in crashes. As newer models of the cars included in this report become available with automatic restraints as standard equipment, their injury results are likely to differ from those without automatic restraints.

*The exposure thresholds for reporting results were 5,000 insured vehicle years for all claims; 10,000 years for claims greater than $250; 15,000 years for claims greater than $500; and 25,000 years for claims greater than $1,000. The results shown in this report were standardized to remove the effects due to differences in the mix of operator age group among different vehicles. Standardizing for this nonvehicle factor ensures that its mix is the same for each result. It should be noted that other nonvehicle factors could vary among different vehicles and that any effects resulting from such factors have not necessarily been eliminated from the results presented in this report. The standardization procedure is described in detail in Appendix B.

Passenger Cars

The total exposure accumulated by passenger cars of the three model years included in this report was just over 6.6 million insured vehicle years. Table 1 presents the claim frequencies by claim size for each model year. Claim frequencies decreased rapidly with each successively larger medical cost group. The frequency of claims exceeding $250 was approximately one-half the overall claim frequency, the frequency of claims exceeding $500 was about two-fifths the overall frequency, and the frequency of claims greater than $1,000 was approximately one-fourth the overall frequency.

The total amount of money paid out, however, was dramatically influenced by the larger claims. For example, claims exceeding $1,000, although representing only about one-fourth of all claims, accounted for nearly 85 percent of the total dollars for medical payments. Claims exceeding $500 accounted for 92 percent of the total dollars, and claims over $250 accounted for nearly 97 percent of the total dollars.

Table 2 summarizes the individual 1983-85 models with the best injury loss experience. Any individual vehicle series with a claim frequency more than 40 percent better (a relative claim frequency of less than 60) than the all-car result for any of the four claim-size categories is listed. The cars are ranked in increasing order of their overall relative claim frequency. Each individual relative claim frequency result that was less than 60 is shown in bold print.

Of the 13 cars with the best injury results listed in Table 2, eleven were large and two were midsize. Eleven of the cars

TABLE 1 Personal Injury Protection Coverages—Claim Frequencies by Model Year And Size of Claim

Model Year	Total Exposure (Insured Vehicle Years)	Claim Frequencies Per 1,000 Insured Vehicle Years			
		All Claims	> $250	> $500	> $1,000
1985	1,044,938	22.5	11.6	8.3	5.3
1984	2,718,063	19.7	10.7	7.8	5.3
1983	2,871,710	18.2	10.0	7.2	5.0

TABLE 2 1983-85 Passenger Cars With the Best Injury Loss Experience Relative Injury Claim Frequencies—Personal Injury Protection Coverages

Make and Series	Exposure (Insured Vehicle Years)	Relative Claim Frequencies By Size of Claim			
		All	> $250	> $500	> $1,000
Pontiac Parisienne-S.W.*	5,578	**50**			
Buick Electra-S.W.	7,794	**55**			
Mercedes 300SD/380SE	14,731	**55**	**58**		
Volvo 240-S.W.	24,160	**59**	**57**	**49**	
Oldsmobile Delta 88-4 Dr.	120,055	**59**	**57**	**55**	**56**
Cadillac Brougham-2 Dr.	5,187	**59**			
Buick LeSabre-4 Dr.	83,928	60	**57**	**56**	**58**
Oldsmobile Custom Cruiser-S.W.	20,421	62	**53**	**55**	
Plymouth Voyager-P.V.*	30,290	63	62	**55**	**51**
Chevrolet Caprice-S.W.	42,291	63	**55**	**57**	**56**
Dodge Caravan-P.V.*	30,360	64	60	61	**58**
American Eagle-S.W.	14,599	65	**58**		
Ford Crown Victoria-S.W.	15,163	70	**59**	**59**	

* 1984 and 1985 Models Only

were manufactured in the United States, seven of them by General Motors; the other two were European imports. No Japanese imports were among the list of cars with the best injury loss results.

Within each of the four claim-size categories, the vehicles with lowest relative claim frequencies were either station wagons or passenger vans. The Pontiac Parisienne station wagon had the lowest overall relative claim frequency (50). The Oldsmobile Custom Cruiser had the lowest relative frequency (53) of claims exceeding $250. The midsize Volvo 240 station wagon had the lowest relative frequency (49) of claims greater than $500. The Plymouth Voyager had the lowest relative frequency (51) of claims over $1,000.

Some vehicle series had *overall* claim frequencies lower than *some* of those listed in Table 2, but they did not have relative claim frequencies less than 60 for *any* of the claim size categories. For example, the four-door Ford Crown Victoria had the following relative claim frequencies for the specified claim-size categories: all claims, 63; greater than $250, 62; greater than $500, 64; and greater than $1,000, 67. This vehicle's overall relative claim frequency (63) was lower than the corresponding all-claim frequency for three of the 13 vehicles in Table 2, but none of its relative claim frequencies was less than 60.

Table 3 summarizes the 1983-85 models with the worst injury loss experience. Any individual series with a claim frequency that was more than 40 percent worse (a relative claim frequency of more than 140) than the all-car result for any of the claim-size categories is included. Fourteen cars are listed in decreasing order of their overall relative claim frequency and results greater than 140 are shown in bold print.

All of the 14 cars listed in Table 3 are small vehicles. There were no station wagons or passenger vans and only one sports and specialty car (the Ford EXP) among the cars with the worst injury experience. Both the two-door and four-door versions of the Chevrolet Chevette and Nissan Sentra were among the cars with the worst injury experience. Eight of the 14 vehicles in Table 3 are imported models, all from Japan.

The Mitsubishi Tredia had the highest overall relative claim frequency (162) and the highest relative frequency (177) of claims exceeding $250. The two-door Chevrolet Chevette had the highest relative frequency (171) of claims greater than $500. For vehicles with claims over $1,000 and sufficient exposure available to report a result, the two-door Chevrolet Chevette and the four-door Nissan Sentra had the highest relative claim frequencies (163).

Table 4 presents relative injury claim frequency results for all of the 1983-85 models with sufficient exposure. Results are shown for individual series and for each car size and body style group. The individual series results in Table 4 are listed within each group in ascending sequence of their overall relative claim frequencies.

The results in Table 4 indicate that, as a group, cars with smaller wheelbases had higher injury losses than cars with larger wheelbases. For example, large four-door models had relative claim frequencies of less than 70 for each of the four claim-size categories, whereas small four-door models had relative claim frequencies of about 115. However this size relationship does not hold for every vehicle series because of considerable variation within size groups. Especially noteworthy were the Saab 900 two-and four-door models — small cars with better results than *any midsize* two-or four-door model.

TABLE 3 1983-85 Passenger Cars With the Worst Injury Loss Experience
Relative Injury Claim Frequencies—Personal Injury Protection Coverages

Make and Series	Exposure (Insured Vehicle Years)	Relative Claim Frequencies By Size of Claim			
		All	> $250	> $500	> $1,000
Mitsubishi Tredia	12,100	**162**	**177**		
Chevrolet Chevette-2 Dr.	61,964	**159**	**171**	**171**	**163**
Isuzu I-Mark-4 Dr.	6,241	**151**			
Mercury Lynx-2 Dr.	25,702	**150**	**146**	**143**	**147**
Nissan Pulsar	45,952	**149**	**150**	**160**	**157**
Nissan Sentra-4 Dr.	49,342	**147**	**152**	**159**	**163**
Renault Encore-4 Dr.*	7,449	**146**			
Ford EXP	19,355	**145**	**146**	138	
Nissan Sentra-2 Dr.	103,733	**143**	**142**	**144**	**144**
Chevrolet Chevette-4 Dr.	69,348	**142**	**153**	**151**	**147**
Pontiac 1000-2 Dr.	12,304	**142**	**152**		
Mitsubishi Cordia	11,416	**142**	**141**		
Nissan 200SX*	20,465	139	**151**	**157**	
Toyota Corolla-2 Dr.*	17,226	137	**146**	**149**	

*1984 and 1985 Models Only

Table 4 also shows that there were large differences in the loss experiences of cars within the same car size and body style categories. For example, the overall relative claim frequencies for small two-door models ranged from a low of 68 for the Saab 900 to a high of 159 for the Chevrolet Chevette, which is more than a twofold difference. Claim frequency results for small four-door models also showed a twofold difference between the low of 76 for the Saab 900 and high of 162 for the Mitsubishi Tredia.

Vans, Pickups, and Utility Vehicles

This section presents injury claim frequency results for 1983-85 model year vans, pickups, and utility vehicles. The results for pickups are presented for small and standard pickups. Small pickups are defined as those with curb weight of less than 3,200 pounds. The utility vehicle results are divided into three wheelbase size groups: Small utility vehicles are those with wheelbases less than 100 inches, intermediate utility vehicles are those with wheelbases in the range 100 to 120 inches, and large utility vehicles as those with wheelbases exceeding 120 inches.

The results for vans, pickups, and utility vehicles are presented in relative terms with the value 100 corresponding to the result for *all passenger cars* combined in each claim size category. Thus, the value 55 for the overall relative claim frequency of all 1983-85 model year vans indicates a claim frequency result that was 45 percent better than the result for all 1983-85 model year passenger cars.

The total exposure for vans, pickups, and utility vehicles represented in the three model years included in this report was approximately 1.5 million insured vehicle years. Figure 1 displays the results by size of claim for each of the six vehicle size groups. The best claim frequency results were for large utility vehicles. (The Chevrolet C10/K10 Suburban accounted for nearly 60 percent of the exposure for this vehicle group.) Small utility vehicles had the highest claim frequency results. (The Ford Bronco II and Jeep CJ-7 contributed over 98 percent of this vehicle group's exposure.)

Table 5 presents relative injury claim frequency results for all of the 1983 through 1985 model year vans, pickups, and utility vehicles with sufficient exposure. Results are shown for individual series and for each vehicle group. Within each vehicle group, the individual series are listed in ascending sequence of their overall relative claim frequencies.

As Table 5 shows, the vehicles with the lowest over all injury claim frequencies were the GMC C1500/K1500 Suburban (35), Chevrolet C20/K20 Suburban (38), and the Chevrolet C10/K10 Suburban (44), all of which are large utility vehicles; the GMC G2500 Vandura (43) and the Ford E-150 Club Wagon (44), both of which are vans; and the GMC C2500/K2500 (41), which is a standard pickup. The Toyota standard bed pickup had the highest claim frequency (108).

For pickup trucks and utility vehicles, there was a very definite relationship between vehicle size and injury claim frequencies. For the *all* claims category, every injury claim frequency result reported for standard pickups was lower than any reported for small pickups. Similarly, injury claim frequency results reported for utility vehicles decreased as vehicle size increased.

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
83-85	ALL	ALL	6634711	100	100	100	100
			SMALL CARS				
	TWO-DOOR MODELS		1023425	128	128	128	127
83-85	SAAB	900	14961	68	62		
83-85	HONDA	ACCORD	70255	101	99	96	90
83-85	HONDA	PRELUDE	42413	103	97	98	91
83-85	MAZDA	626	15407	107	109	106	
83-85	VOLKSWAGEN	SCIROCCO	8607	111			
84-85	HONDA	CIVIC	25287	111	110	107	102
84-85	CHRYSLER	LASER	23969	111	112	111	
84-85	DODGE	DAYTONA	18967	117	115	108	
83-85	MAZDA	GLC	16195	118	127	126	
83-85	TOYOTA	CELICA	93349	119	121	121	127
83-85	SUBARU	HATCHBACK	12764	120	111		
83-85	TOYOTA	TERCEL	51927	122	120	119	121
84-85	RENAULT	ENCORE	18340	123	119	116	
83-85	RENAULT	FUEGO	9488	127			
83-85	FORD	ESCORT	131502	130	131	131	128
83-85	ISUZU	IMPULSE	9927	131			
83-85	PLYMOUTH	TURISMO	41750	133	123	119	117
83-85	RENAULT	ALLIANCE	45832	135	126	128	126
83-85	MITSUBISHI	STARION	5904	136			
83-85	DODGE	CHARGER	44031	136	130	127	117
84-85	TOYOTA	COROLLA	17226	137	146	149	
84-85	NISSAN	200SX	20465	139	151	157	
83-85	PONTIAC	1000	12304	142	152		
83-85	MITSUBISHI	CORDIA	11416	142	141		
83-85	NISSAN	SENTRA	103733	143	142	144	144
83-85	NISSAN	PULSAR	45952	149	150	160	157
83-85	MERCURY	LYNX	25702	150	146	143	147
83-85	CHEVROLET	CHEVETTE	61964	159	171	171	163

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
			SMALL CARS				
	FOUR-DOOR MODELS		**814536**	**116**	**114**	**113**	**112**
83-85	SAAB	900	13342	76	68		
85	VOLKSWAGEN	JETTA	5680	81			
83-85	HONDA	ACCORD	160199	93	89	90	89
83-85	MAZDA	626	40756	96	86	86	86
83-85	MERCURY	LYNX	18254	98	93	82	
83-85	NISSAN	STANZA	47973	105	101	102	95
84-85	HONDA	CIVIC	17717	112	104	97	
83-85	DODGE	OMNI	49923	115	108	99	98
83-85	PLYMOUTH	HORIZON	59827	116	107	101	97
83-85	RENAULT	ALLIANCE	57480	118	116	114	115
84-85	TOYOTA	COROLLA	51091	119	125	126	129
83-85	FORD	ESCORT	64636	122	119	119	119
83-85	TOYOTA	TERCEL	35931	122	114	120	125
83-85	PONTIAC	1000	10104	128	127		
83-85	MAZDA	GLC	22885	138	138	137	
83-85	CHEVROLET	CHEVETTE	69348	142	153	151	147
84-85	RENAULT	ENCORE	7449	146			
83-85	NISSAN	SENTRA	49342	147	152	159	163
83-85	ISUZU	I-MARK	6241	151			
83-85	MITSUBISHI	TREDIA	12100	162	177		
	STATION WAGONS/PASSENGER VANS		**194761**	**97**	**94**	**94**	**95**
84-85	TOYOTA	VAN	13437	78	82		
83-85	VOLKSWAGEN	VANAGON	6422	84			
83-85	TOYOTA	TERCEL 4WD	27965	90	87	94	89
84-85	HONDA	CIVIC	11198	93	95		
83-85	MERCURY	LYNX	11071	94	96		
83-85	FORD	ESCORT	62788	98	90	87	89
84-85	TOYOTA	TERCEL	8859	104			
83-85	NISSAN	SENTRA	40036	106	104	104	102

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
			SMALL CARS				
	SPORTS & SPECIALTY		**215828**	**105**	**109**	**109**	**110**
83-85	MERCEDES	380SL COUPE	6316	67			
83-85	PORSCHE	944 COUPE	13312	75	77		
84-85	NISSAN	300ZX 2+2	8928	83			
84-85	CHEVROLET	CORVETTE	18512	84	87	97	
83-85	MAZDA	RX-7	49113	103	108	109	106
84-85	NISSAN	300ZX	20936	107	113	118	
83-85	VOLKSWAGEN	RABBIT CONV	5186	110			
84-85	PONTIAC	FIERO	42637	118	122	117	115
84-85	HONDA	CIVIC CRX	21137	128	129	129	
83-85	FORD	EXP	19355	145	146	138	
			MIDSIZE CARS				
	TWO-DOOR MODELS		**1041473**	**103**	**104**	**105**	**107**
83-85	OLDSMOBILE	CIERA	26694	84	78	75	73
83-85	OLDSMOBILE	CUTLASS	176450	87	90	91	95
83-85	PONTIAC	GRAND PRIX	73766	90	91	92	95
83-85	BUICK	CENTURY	10962	94	88		
83-85	BUICK	REGAL	133689	95	98	97	100
83-85	CHEVROLET	MONTE CARLO	94272	97	103	108	109
83-85	PONTIAC	6000	6678	97			
83-85	CHEVROLET	CITATION	11340	101	98		
83-85	FORD	THUNDERBIRD	100453	102	106	106	109
83-85	CHRYSLER	LEBARON	21377	103	107	103	
83-85	CHEVROLET	CELEBRITY	18479	104	114	106	
83-85	DODGE	ARIES	17098	106	100	94	
83-85	MERCURY	COUGAR	73626	107	112	119	123
83-85	DODGE	400/600	10900	109	100		
85	PONTIAC	GRAND AM	8991	111			
85	BUICK	SOMERSET	8445	112			
83-85	PLYMOUTH	RELIANT	20080	115	116	111	
85	OLDSMOBILE	CALAIS	10372	117	121		
83-85	BUICK	SKYHAWK	43235	120	118	117	116
84-85	FORD	TEMPO	33201	121	126	125	140
83-85	PONTIAC	SUNBIRD/2000	39388	121	119	114	119
83-85	OLDSMOBILE	FIRENZA	9844	123			
84-85	MERCURY	TOPAZ	8562	123			
83-85	CHEVROLET	CAVALIER	81880	132	132	133	130

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
			MIDSIZE CARS				
	FOUR-DOOR MODELS		**1392887**	**95**	**93**	**93**	**92**
83-85	OLDSMOBILE	CUTLASS	66274	79	75	73	69
83-85	PONTIAC	6000	60227	80	78	80	84
83-85	PONTIAC	BONNEVILLE	55280	81	83	80	80
83-85	VOLVO	240	45096	84	83	87	86
83-85	TOYOTA	CAMRY	62680	84	78	76	73
83-85	OLDSMOBILE	CIERA	126007	85	81	80	79
83-85	PEUGEOT	505	10973	85	86		
83-85	BUICK	CENTURY	101654	86	84	85	85
83-85	CHRYSLER	NEW YORKER	41138	89	91	94	98
83-85	MERCURY	MARQUIS	52965	89	94	92	92
83-85	DODGE	600	29420	89	91	86	90
85	NISSAN	MAXIMA	9553	90			
83-85	CHEVROLET	CELEBRITY	98734	92	89	87	87
83-85	CADILLAC	CIMARRON	16761	93	103	107	
83-85	FORD	LTD	79222	93	89	88	88
83-85	AUDI	4000	10345	94	94		
83-85	CHRYSLER	LEBARON	35488	95	94	96	98
83-85	BUICK	SKYLARK	57092	96	96	96	96
83-85	CHEVROLET	CITATION	32118	99	99	96	98
84-85	MERCURY	TOPAZ	22706	101	99	92	
83-85	BUICK	SKYHAWK	21799	105	103	98	
84-85	FORD	TEMPO	85228	108	109	108	106
83-85	OLDSMOBILE	FIRENZA	18625	111	102	102	
83-85	PLYMOUTH	RELIANT	54364	111	109	102	100
83-85	DODGE	ARIES	46228	112	114	113	114
83-85	PONTIAC	SUNBIRD/2000	31594	118	109	102	102
83-85	CHEVROLET	CAVALIER	97223	119	123	121	118
	STATION WAGONS/PASSENGER VANS		**302059**	**83**	**77**	**75**	**73**
83-85	VOLVO	240	24160	59	57	49	
83-85	AMERICAN	EAGLE	14599	65	58		
84-85	PONTIAC	6000	5975	65			
84-85	OLDSMOBILE	CUTLASS CIERA	12126	75	67		
83-85	VOLKSWAGEN	QUANTUM	6071	78			
83-85	FORD	LTD	32660	79	78	73	73
84-85	CHEVROLET	CELEBRITY	23984	79	77	72	
83-85	MERCURY	MARQUIS	9601	80			

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
			MIDSIZE CARS				
	STATION WAGONS/PASSENGER VANS						
84-85	BUICK	CENTURY	9299	80			
83-85	CHRYSLER	LEBARON	10614	84	76		
83-85	PLYMOUTH	RELIANT	28877	88	81	80	77
83-85	BUICK	SKYHAWK	8611	88			
83-85	PONTIAC	SUNBIRD/2000	8953	89			
83-85	OLDSMOBILE	FIRENZA	10924	91	73		
83-85	CHEVROLET	CAVALIER	60886	93	88	91	87
83-85	DODGE	ARIES	25446	95	88	85	86
	SPORTS & SPECIALTY		**473079**	**109**	**113**	**115**	**117**
83-85	BMW	500 SERIES	11205	67	64		
84-85	LINCOLN	MARK VII	6748	78			
84-85	AUDI	5000	22151	80	82	88	
83-85	LINCOLN	CONTINENTAL	13694	85	95		
83-85	VOLVO	740/760	11353	88	90		
84-85	MERCEDES	190D/E	8930	90			
83-85	CHRYSLER	LEBARON CONV.	10675	91	103		
84-85	BMW	318I/325E 2D	23902	94	95	104	
83-85	FORD	MUSTANG CONV.	12954	98	102		
83-85	TOYOTA	CELICA SUPRA	21959	102	101	102	
83-85	DODGE	400/600 CONV.	6552	106			
83-85	PONTIAC	FIREBIRD	75187	112	117	119	120
83-85	CHEVROLET	CAMARO	146181	120	125	127	129
83-85	FORD	MUSTANG	78312	128	131	133	135
83-85	MERCURY	CAPRI	12450	136	139		

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
			LARGE CARS				
	TWO-DOOR MODELS		**110903**	**68**	**76**	**76**	**77**
83-85	FORD	CROWN VICTORIA	10389	66	80		
83-85	BUICK	LESABRE	27693	67	78	81	82
83-85	OLDSMOBILE	DELTA 88	51916	68	72	69	68
83-85	MERCURY	GRAND MARQUIS	11534	70	81		
84-85	CHEVROLET	CAPRICE	6709	77			
	FOUR-DOOR MODELS		**596973**	**65**	**67**	**66**	**68**
83-85	OLDSMOBILE	DELTA 88	120055	59	57	55	56
83-85	BUICK	LESABRE	83928	60	57	56	58
83-85	FORD	CROWN VICTORIA	61416	63	62	64	67
85	OLDSMOBILE	NINETY EIGHT	16999	66	66	64	
83-85	MERCURY	GRAND MARQUIS	75041	67	70	72	71
83-85	DODGE	DIPLOMAT	9583	68			
83-85	CHEVROLET	CAPRICE	97890	69	74	73	74
83-85	CHEVROLET	IMPALA	20594	70	74	72	
83-85	CHRYSLER	NEW YORKER 5TH AVE	75400	70	77	78	81
85	BUICK	ELECTRA	13226	74	73		
84-85	PONTIAC	PARISIENNE	15824	75	82	84	
83-85	PLYMOUTH	GRAN FURY	6994	77			
	STATION WAGONS/PASSENGER VANS		**163963**	**62**	**56**	**56**	**56**
84-85	PONTIAC	PARISIENNE	5578	50			
83-85	BUICK	ELECTRA	7794	55			
83-85	MERCURY	GRAND MARQUIS	10023	60	64		
83-85	OLDSMOBILE	CUSTOM CRUISER	20421	62	53	55	
84-85	PLYMOUTH	VOYAGER	30290	63	62	55	51
83-85	CHEVROLET	CAPRICE	42291	63	55	57	56
84-85	DODGE	CARAVAN	30360	64	60	61	58
83-85	FORD	CROWN VICTORIA	15163	70	59	59	
	SPORTS & SPECIALTY		**304824**	**68**	**72**	**77**	**79**
83-85	MERCEDES	300SD/380SE	14731	55	58		
83-85	CADILLAC	BROUGHAM 2D	5187	59			
83-85	MERCEDES	300D	17267	60	65	68	
83-85	OLDSMOBILE	TORONADO	29173	64	67	71	71
83-85	JAGUAR	XJ6	9308	65			

(See notes on page 12)

TABLE 4 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
			LARGE CARS				
85	CADILLAC	DEVILLE 4D	17808	67	65	65	
83-85	CADILLAC	BROUGHAM 4D	27711	67	75	85	87
83-85	BUICK	RIVIERA	41216	69	73	80	80
83-85	CADILLAC	ELDORADO	55817	70	73	79	88
83-85	LINCOLN	TOWN CAR	44444	70	75	75	77
85	CADILLAC	DEVILLE 2D	5925	82			
83-85	CADILLAC	SEVILLE	25506	83	94	103	108

NOTES FOR TABLE 4

Results are standardized by the distribution:

Youthful Operator	No Youthful Operator
10%	90%

Minimum exposure requirements for reporting:

All Claims	—	5,000 Vehicle Years
Claims > $250	—	10,000 Vehicle Years
Claims > $500	—	15,000 Vehicle Years
Claims > $1000	—	25,000 Vehicle Years

TABLE 5
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 VANS, PICKUPS, AND UTILITY VEHICLES

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
		VANS					
	ALL VANS		**234833**	**55**	**58**	**61**	**65**
83-85	GMC	G2500 VANDURA (3/4T)	13301	43	37		
83-85	FORD	E-150 CLUB WAGON (1/2-3/4T)	11670	44	39		
83-85	CHEVROLET	G20 SPORTVAN (3/4T)	13107	49	53		
83-85	FORD	E-150 ECONOLINE (1/2-3/4T)	58961	51	55	60	62
83-85	CHEVROLET	G20 CHEVYVAN (3/4T)	44818	53	54	57	62
83-85	DODGE	B250 (3/4T)	29944	57	63	68	71
83-85	CHEVROLET	G10 CHEVYVAN (1/2T)	12962	66	75		
83-85	DODGE	B150 (1/2T)	26841	67	65	63	69
		PICKUPS					
	SMALL PICKUPS		**458185**	**85**	**88**	**85**	**82**
83-85	GMC	S15	19989	69	64	63	
83-85	CHEVROLET	S10	102836	80	79	76	73
83-85	FORD	RANGER	143149	80	82	77	74
83-85	NISSAN	KING CAB	40806	85	90	92	85
83-85	NISSAN	STANDARD BED	41240	88	89	84	80
83-85	ISUZU	LONG BED	7608	91			
83-85	ISUZU	STANDARD BED	9128	91			
83-85	DODGE	D-50	19795	94	93	91	
84-85	TOYOTA	LONG BED (1/2T)	15951	97	106	99	
84-85	TOYOTA	XTRA CAB	16669	98	108	109	
83-85	NISSAN	LONG BED	6359	100			
83-85	MITSUBISHI	STANDARD BED	6520	101			
84-85	TOYOTA	STANDARD BED	19831	108	115	111	
	STANDARD PICKUPS		**440760**	**55**	**57**	**57**	**58**
83-85	GMC	C2500/K2500 (3/4T)	7097	41			
83-85	CHEVROLET	C20/K20 (3/4T)	24822	51	55	57	
83-85	FORD	F-250 (3/4T)	41144	52	54	52	53
83-85	FORD	F-150 (1/2-3/4T)	147579	54	58	55	53
83-85	DODGE	D250/W250 (3/4T)	5331	55			
83-85	CHEVROLET	C10/K10 (1/2T)	122949	56	56	58	60
83-85	DODGE	D150/W150 (1/2T)	46182	58	57	55	55
83-85	GMC	C1500/K1500 (1/2T)	32101	58	63	63	65
83-85	CHEVROLET	EL CAMINO	11491	65	66		

(See notes on page 14)

TABLE 5 (Cont'd)
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1983-85 VANS, PICKUPS, AND UTILITY VEHICLES

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
		UTILITY VEHICLES					
	SMALL UTILITY VEHICLES		**84592**	**89**	**93**	**91**	**96**
84-85	FORD	BRONCO II	51912	84	88	84	87
83-85	JEEP	CJ-7	31263	100	103	105	112
	INTERMEDIATE UTILITY VEHICLES		**220252**	**64**	**64**	**64**	**66**
83-85	JEEP	GRAND WAGONEER	11743	46	40		
83-85	CHEVROLET	K10 BLAZER (1/2T)	21741	50	51	55	
83-85	DODGE	AD150/AW150 (1/2T)	20376	54	58	59	
83-85	FORD	BRONCO	31590	58	62	63	62
84-85	JEEP	CHEROKEE	27202	62	56	60	59
84-85	JEEP	WAGONEER	7149	63			
83-85	GMC	S15 JIMMY	15376	68	60	60	
83-85	CHEVROLET	S10 BLAZER	75280	76	81	80	85
	LARGE UTILITY VEHICLES		**30402**	**41**	**41**	**41**	**42**
83-85	GMC	C1500/K1500 SUBURBAN (1/2T)	5594	35			
83-85	CHEVROLET	C20/K20 SUBURBAN (3/4T)	5340	38			
83-85	CHEVROLET	C10/K10 SUBURBAN (1/2T)	18049	44	48	47	

NOTES FOR TABLE 5

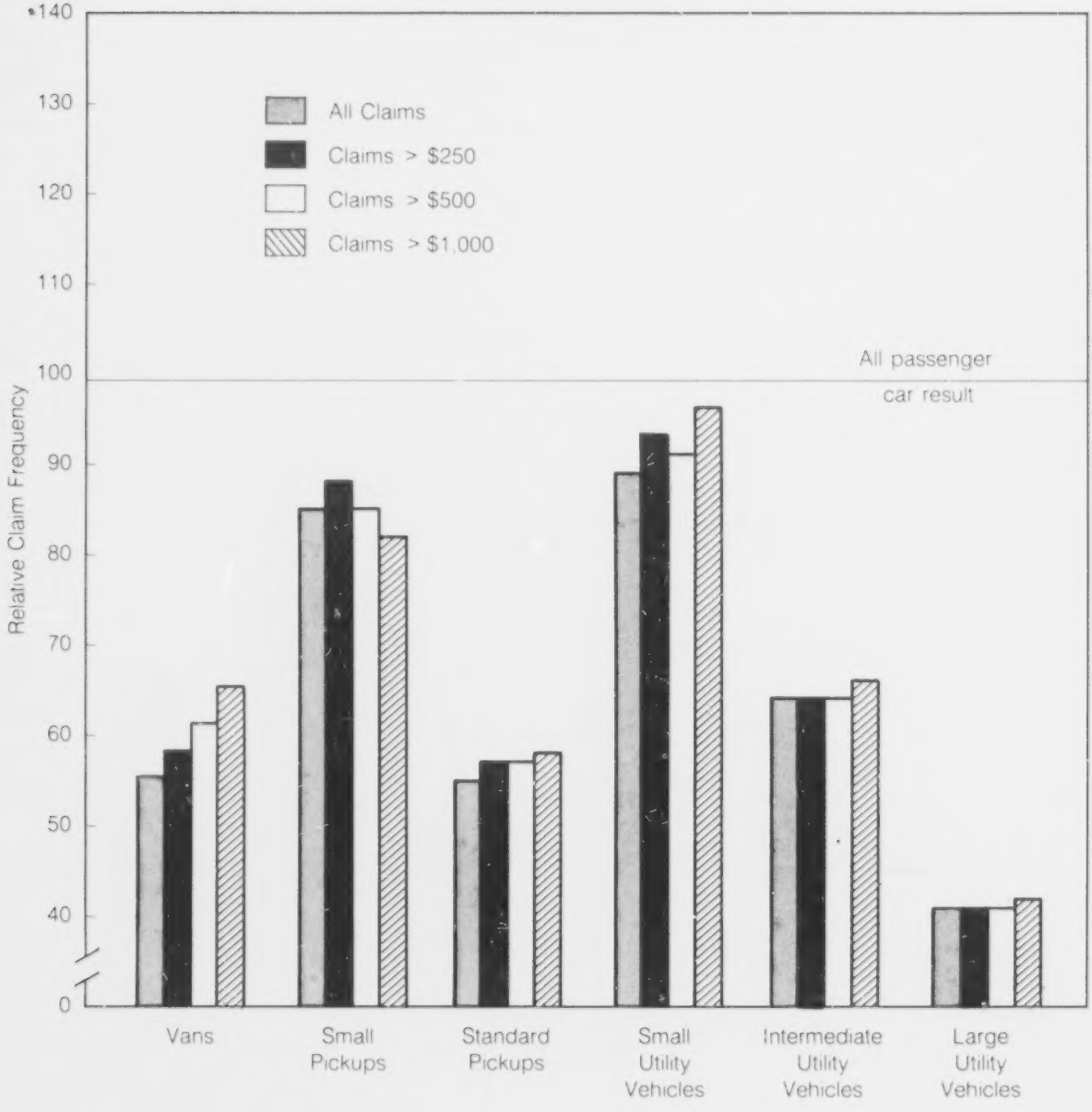
Results are standardized by the distribution:

Youthful Operator	No Youthful Operator
10%	90%

Minimum exposure requirements for reporting:

All Claims	—	5,000 Vehicle Years
Claims > $250	—	10,000 Vehicle Years
Claims > $500	—	15,000 Vehicle Years
Claims > $1000	—	25,000 Vehicle Years

FIGURE 1
Personal Injury Protection Coverages
Relative Claim Frequencies
1983-85 Model Year Vans, Pickups, and Utility Vehicles



APPENDIX A

Specifications of Injury Coverages

Personal Injury Protection (PIP) Coverages

Personal injury protection coverages provide first-party insurance against medical and other types of losses in "no-fault" states.

The personal injury protection coverages reported in this study were based on data from the 19 states and the District of Columbia listed below.

Personal Injury Protection (PIP) Coverage States:

Colorado	Michigan
Connecticut	Minnesota
Delaware	New Jersey
District of Columbia	New York
Florida	North Dakota
Georgia	Oregon
Hawaii	Pennsylvania
Kansas	South Carolina
Kentucky	Texas
Maryland	Utah

APPENDIX B

Method of Data Analysis

Personal Injury Protection Coverages

Results in this report are based on personal injury protection (PIP) coverages that are provided in so-called no-fault states. These coverages were selected because they provide medical expense reimbursement to injured occupants of the insured vehicle.

Use of PIP insurance data to identify crashes involving injury has certain limitations because these data cannot provide information on all occupant injuries. This occurs when claims for injury costs are not made under PIP coverages because of the availability of other sources of medical expense reimbursements, such as bodily injury liability and/or health insurance coverages. Consequently, PIP claim frequencies do not include all of the crashes involving injury. This limitation should not distort comparisons among different vehicles.

Vehicle Description and Identification

The Vehicle Identification Numbers (VINs) of most new automobiles sold in the United States are individually unique numbers that contain, in coded form, detailed information as to each vehicle's make, model year, series,* and other distinguishing characteristics.

The very specific vehicle types for which results are presented in this report were derived from the VINs of the individual automobiles.

*See Appendix C for definitions.

Only data with valid VINs were used for this report. Each VIN was decoded into a set of specific characteristics. For the purposes of this report the vehicle characteristics of primary concern were make, model year, series, body style, and wheelbase.

Exposure

Exposure, in terms of insured vehicle years, was computed for each individual vehicle from the coverage data. The total number of insured vehicle years for each vehicle series was then obtained by accumulating the exposure for all of the individual vehicles of that vehicle series.

For each vehicle series, the exposure was also computed for each operator age group — youthful operators and no youthful operators.*

Claim Frequency

Both pending and paid claims for an individual vehicle were first matched with its corresponding coverage data to ensure that the crash had occurred within an appropriate period of coverage for that vehicle. In every instance in which multiple claims were made for the same crash — e.g., when more than one occupant of the car incurred medical expenses — the claims were treated as a single injury claim in the calculation of claim frequencies. It should be noted that some medical expenses can sometimes be incurred even though the occupants are not injured. This can occur, for example, when precautionary medical examinations are undertaken even though no injuries are apparent or, in fact, found.

All injury claims involving medical expense reimbursements were used, together with the corresponding exposure, to compute the claim frequencies in terms of the number of claims per 1,000 insured vehicle years. The overall claim frequency results were computed using both paid and pending claims. In addition to the overall claim frequency results, separate claim frequency results were computed for claims in which the medical losses exceeded $250, $500, and $1,000. The latter three results provide indications of the extent to which particular cars are over- or under-involved in crashes resulting in more significant injuries. Claims involving nonmedical losses only and claims settled without payments were not used. Thus, the claim frequencies represent the number of crashes per 1,000 insured vehicle years in which one or more injuries occurred resulting in medical expense claim payments under PIP insurance coverages.

Standardization

The losses for different vehicles can vary substantially in relation to certain nonvehicle factors. One important factor with which claim frequency varies is the operator age group, and the mix of operator ages can vary considerably among different vehicle types — so considerably that it could distort comparisons of results between vehicles if not taken into account.

Youthful operators have higher insurance claim frequencies than older drivers. Thus, if two vehicle types have different proportions of youthful operators, this difference, if not taken into consideration, would be sufficient to bias comparisons. To remove this effect, the results for each vehicle type were weighted, using the values shown below, to produce a weighted average of the actual results for each operator

age group. In this way the results for each vehicle type are based on the same mix, or distribution, of exposure for the two operator age groups.

Because the same weights are used for each vehicle type, the effects due to operator age group are present in equal amounts in the standardized results for each vehicle type. Therefore, to the extent that the age distributions within operator age group do not vary substantially for different vehicles, these effects can no longer bias comparisons among vehicles.

This standardization procedure is widely used in vital health statistics.* The basic principle of this standardization procedure is the introduction of a standard distribution of exposure for the different operator age groups.

Operator Age Group Weights

Youthful Operator	No Youthful Operator	Combined
0.1	0.9	1.0

Mathematical Procedures

This section describes, and illustrates with an example, the mathematical calculations performed in applying the standardization procedure to the injury loss information used for this report.

For a particular vehicle series (or group of vehicles), let C_i represent the total number of claims (paid and unpaid) and let E_i represent the total number of insured vehicle years of exposure, where

i = y means that the classification code assigned to the vehicle indicates youthful operator, and

i = n means that the classification code assigned to the vehicle indicates no youthful operator.

Thus, youthful and no youthful operator claim frequencies (f_y and f_n, respectively), in terms of the number of claims per 1,000 insured vehicle years, are calculated as

$$f_y = (C_y/E_y) \times 1{,}000, \text{ and } f_n = (C_n/E_n) \times 1{,}000 .$$

The above claim frequencies are then combined using the previously cited operator age group weights to obtain the standardized claim frequency (f) as follows:

$$f = (0.1)f_y + (0.9)f_n .$$

Example: 1985 Chevrolet Camaro

Number of Claims by Operator Age Groups		Exposure By Operator Age Groups	
Youthful	No Youthful	Youthful	No Youthful
$C_y = 159$	$C_n = 331$	$E_y = 3{,}670.31$	$E_n = 11{,}372.32$

Thus, the youthful and no youthful operator claim frequencies are: $f_y = (159/3{,}670.31) \times 1{,}000 = 43.3$, and

$$f_n = (331/11{,}372.32) \times 1{,}000 = 29.1 .$$

The standardized claim frequency is calculated as follows:

$$f = (0.1)f_y + (0.9)f_n = (0.1)(43.3) + (0.9)(29.1) = 30.5.$$

Thus, the standardized claim frequency for the 1985 Chevrolet Camaro is 30.5 claims per 1,000 insured vehicle years of exposure.

Exposure Threshold For Reporting Results

A threshold of 5,000 insured vehicle years of exposure was selected for reporting the overall claim frequency results for vehicle groups and individual vehicle series. Consequently, no results are presented in this report for any of the vehicle series with smaller amounts of exposure. In addition, different thresholds were used to determine whether the claim frequency results for medical losses exceeding the specified dollar amounts were published. In order for the claim frequency results for medical losses exceeding $250 to be published, at least 10,000 insured years of exposure were required; for medical losses of greater than $500, the minimum exposure was 15,000; and for medical losses exceeding $1,000, the minimum exposure was 25,000 insured vehicle years.

It should be kept in mind that, in general, the greater the exposure associated with a reported claim frequency, the more confidence can be placed in it.

Combining Results for More Than One Model Year

The relative injury loss experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. For this reason and because substantial amounts of exposure are needed to provide reliable injury claim* frequency results, the data for model years 1983 through 1985 were combined for those vehicles with unchanged basic designs.

The aggregated model year result (R) for each vehicle series (i) was obtained by weighting the relative claim frequency for each model year (j) by the applicable exposure for each model year; that is,

$$R_i = \left(\sum (exp_{ij} (f_{ij}/F_j)) \right) / \left(\sum exp_{ij} \right) \times 100,$$

where

exp_{ij} = exposure for vehicle i for model year j,

f_{ij} = standardized claim frequency for vehicle i for model year j, and

F_j = standardized claim frequency for all passenger cars for model year j.

Example: Chevrolet Camaro

	1985	1984	1983
Exposure (exp)	15,043	64,142	66,997
Claim Frequency (f)	30.5	25.1	19.9
Claim Frequency (F)—all cars	22.5	19.7	18.2

Result = $[(15{,}043\ (30.5/22.5) + 64{,}142\ (25.1/19.7) + 66{,}997\ (19.9/18.2)) / (15{,}043 + 64{,}142 + 66{,}997)] \times 100 = 120.$

*For example, see Armitage P., *Statistical Methods in Medical Research*, Wiley, New York, 1971.

APPENDIX C Definitions

Claim Frequency - The number of claims for a group of vehicles, divided by the exposure for that group; expressed as claims per one thousand insured vehicle years.

Exposure - The time interval an individual vehicle is insured. Exposure for a group of vehicles is expressed in units of insured vehicle years.

First-Party Coverage -An insurance coverage under which the policyholder collects compensation for his losses from his own insurer regardless of fault.

No-Fault Auto Insurance - An auto insurance plan in which each driver/owner accepts financial responsibility for some or all losses sustained by himself, pedestrians hit by him, and occupants of his own vehicle in return for which he enjoys some immunity from liability for losses to third-party persons.

Operator Age Group - The factor that distinguishes those vehicles with a youthful rated driver from those vehicles without a youthful rated driver (see Youthful Operator).

Personal Injury Protection (PIP) Coverage - First-party no-fault coverage in which an insurer pays, within the specified limits, the medical, hospital, and other expenses of the insured, others in his vehicle, and pedestrians struck by him.

Rated Driver - The driver who, for insurance purposes, is considered to represent the greatest loss potential for the insured vehicles.

Vehicle Classifications - There are four vehicle classes, defined as follows:

1. **Passenger Cars** - There are four major body style groupings of passengers cars—regular two-door models, regular four-door models, station wagons and passenger vans, and sports and and specialty models. Sports and specialty models include all two-seater cars, all convertibles, all midsize and large cars with two or fewer designated rear seating positions, and all luxury cars. Each body style group is further divided into classes based on wheelbase size (rounded to the nearest inch) defined as follows:

   Small - Cars with wheelbases less than or equal to 99 inches.

   Midsize - Cars with wheelbases greater than 99 inches and less than or equal to 109 inches.

   Large - Vehicles with wheelbases greater than 109 inches.

2. **Vans** - Fully enclosed vehicles with either no hood or a very short hood, in which the engine is placed at least 50 percent behind the the windshield. The driver's position is usually well forward, nearly beside the engine, usually within the forward 25 percent of the wheelbase. These vehicles are designed for cargo transport and are equipped with a right-side cargo access door and rear doors. The cargo area is not separated from the passenger area—both are enclosed under the same roof.

3. **Pickups** - Cargo-carrying vehicles, usually on a truck chassis, with an enclosed cab and a separate open cargo area. The open cargo area generally is a box with raised sides with an opening tailgate. There are also a small number of auto pickups that are similar to regular pickups except that they are built on a passenger car chassis. Pickups are further divided into two subgroups based on curb weight—small pickups (less than 3,000 pounds) and standard pickups (3,000 pounds or more).

4. **Utility Vehicles** - Vehicles built on a heavy-duty chassis capable of off-road use. They are of conventional construction with the driver behind the engine. The cargo and passenger areas are integral with the driver area. Many of these vehicles are equipped with soft or removable tops. Frequently, these vehicles are equipped with four-wheel drive. Utility vehicles are further divided into three subgroups based on wheel-base size—small utility vehicles (less than 100 inches), intermediate utility vehicles (from 100 to 120 inches), and large utility vehicles (greater than 120 inches).

Vehicle Identification Number (VIN) - A code, variously comprising both numbers and letters; normally 8 to 17 characters in length, assigned to each vehicle by its manufacturer. The VIN uniquely identifies the vehicle within at least a 10-year time span and, in recent model year vehicles, almost always contains coding that identifies the make, series, model year, and other characteristics of each vehicle.

Vehicle Series - A name denoting a family of vehicles, within a make, with the same wheelbase and a degree of commonality in construction such as body, chassis, etc.

Youthful Operator - For the purposes of this report, all males (married or single) under 25 years of age and all unmarried females under 25 years of age.

APPENDIX D Vehicle Series Designations

PART A: PASSENGER CARS

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Alfa Romeo	GTV6				S
	Spider Veloce				S
American	Eagle		M	M	
Audi	GT Coupe**	M			
	Quattro				S
	4000		M		
	4000 Quattro**				S
	5000**-4 Dr. & S.W.				M
BMW	318i/325e-2 Dr.**				M
	318i/325e-4 Dr.*				M
	524TD*				M
	528e/533i				M
	535i*				M
	633CSi/635CSi				M
	733i/735i				L
Buick	Century	M	M	M**	
	Electra FWD*	L	L		
	Electra RWD			L	
	Le Sabre	L	L	L***	
	Regal	M			
	Riviera				L
	Riviera Convertible				L
	Skyhawk	M	M	M	
	Skylark		M		
	Somerset*	M			
Cadillac	Brougham-2 Dr. & 4 Dr.				L
	Cimarron		M		
	De Ville*-2 Dr. & 4 Dr.				L
	Eldorado				L
	Eldorado Convertible**				L
	Seville				L

(See notes on page 24)

PART A: PASSENGER CARS (Cont'd)

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Chevrolet	Camaro				M
	Caprice	L**	L	L	
	Cavalier	M	M	M	
	Cavalier Convertible				M
	Celebrity	M	M	M**	
	Chevette	S	S		
	Citation	M	M		
	Corvette**				S
	Impala		L		
	Monte Carlo	M			
	Spectrum*	S	S		
	Sprint*	S			
Chrysler	Laser**	S			
	Le Baron	M	M	M	
	Le Baron Convertible				M
	Le Baron GTS*		M		
	New Yorker		M		
	New Yorker 5th Avenue		L		
Dodge	Aries	M	M	M	
	Caravan**			L	
	Charger/Shelby	S			
	Colt*	S	S		
	Colt Vista**			M	
	Conquest**	S			
	Daytona**	S			
	Diplomat		L		
	Lancer*		M		
	Omni		S		
	400/600	M			
	400/600 Convertible				M
	600		M		
Ferrari	308 Quattroval				S
Fiat	Spider 2000				S
	X 1/9				S

(See notes on page 24)

PART A: PASSENGER CARS (Cont'd)

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Ford	Crown Victoria	L	L	L	
	Escort	S	S	S	
	EXP				S
	LTD		M	M	
	Mustang				M
	Mustang Convertible				M
	Tempo**	M	M		
	Thunderbird	M			
Honda	Accord	S	S		
	Civic**	S	S	S	
	Civic CRX**				S
	Civic 4WD*			S	
	Prelude	S			
Isuzu	Impulse	S			
	I-Mark	S*	S		
Jaguar	XJS				M
	XJ6				L
Lincoln	Continental				M
	Mark VII**				M
	Town Car				L
Mazda	GLC	S	S	S	
	RX-7				S
	626	S	S		
Mercedes Benz	190D/E**				M
	300CD				M
	300D				L
	300SD/380SE				L
	300TD				L
	380SEC/500SEC				L
	380SEL/500SEL				L
	380SL Coupe				S

(See notes on page 24)

PART A: PASSENGER CARS (Cont'd)

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Mercury	Capri				M
	Cougar	M			
	Grand Marquis	L	L	L	
	Lynx	S	S	S	
	Marquis		M	M	
	Topaz**	M	M		
Merkur	XR4Ti*				M
Mitsubishi	Cordia	S			
	Galant*		M		
	Mirage*	S			
	Starion	S			
	Tredia		S		
Nissan	Maxima*		M	M	
	Pulsar	S			
	Sentra	S	S	S	
	Stanza		S		
	200 SX**	S			
	300 ZX**				S
	300 ZX 2+2**				S
Oldsmobile	Calais*	M			
	Custom Cruiser			L	
	Cutlass	M	M		
	Cutlass Ciera	M	M	M**	
	Delta 88	L	L		
	Firenza	M	M	M	
	Ninety Eight*	L	L		
	Toronado				L

(See notes on page 24)

PART A: PASSENGER CARS (Cont'd)

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Peugeot	505		M	L**	
Plymouth	Caravelle*		M		
	Colt*	S	S		
	Colt Vista**			M	
	Conquest**	S			
	Gran Fury		L		
	Horizon		S		
	Reliant	M	M	M	
	Turismo	S			
	Voyager**			L	
Pontiac	Bonneville		M		
	Fiero**				S
	Firebird				M
	Grand Am*	M			
	Grand Prix	M			
	Parisienne**		L	L	
	Sunbird/2000	M	M	M	
	Sunbird Convertible				M
	1000	S	S		
	6000	M	M	M**	
Porsche	911 Cabriolet**				S
	911 Coupe/Targa				S
	928 Coupe				S
	944 Coupe				S
Renault	Alliance	S	S		
	Alliance Convertible*				S
	Encore**	S	S		
	Fuego	S			
	Sportwagon/18i			S	
Saab	900	S	S		

(See notes on page 24)

PART A: PASSENGER CARS (Cont'd)

MAKE	SERIES	2-DOOR MODEL	4-DOOR MODEL	S.W./ PASS.VAN	SPORTS/ SPECIALTY
Subaru	DL/GL*		S	S	
	DL/GL 4WD*			S	
	GL 4WD*		S		
	Hatchback	S			
	Hatchback 4WD	S			
	XT Coupe*	S			
	XT Coupe 4WD*	S			
Toyota	Camry		M		
	Celica	S			
	Celica Convertible*				S
	Celica Supra				M
	Corolla**	S	S		
	Cressida*		M	M	
	MR2*				S
	Tercel	S	S	S**	
	Tercel 4WD			S	
	Van**			S	
Volkswagen	Cabriolet/Rabbit Convertible				S
	Golf*	S	S		
	GTI*	S			
	Jetta*	S	S		
	Quantum		M	M	
	Scirocco	S			
	Vanagon			S	
Volvo	240		M	M	
	740/760				M
	740/760 SW*				M

S - Small
M - Midsize
L - Large

* 1985 Models Only
** 1984 and 1985 Models Only
*** 1983 and 1985 Models Only

Models contributing less than 100 insured vehicle years of exposure are not listed.

PART B: VANS, PICKUPS, AND UTILITY VEHICLES

VEHICLE CLASS	MAKE	SERIES
Vans	Chevrolet	Astro Cargo Van* G10 Chevyvan (1/2T) G20 Chevyvan (3/4T) G10 Sportvan (1/2T) G20 Sportvan (3/4T)
	Dodge	B150 (1/2T) B250 (3/4T) Mini Ram/Royal**
	Ford	E-150 Club Wagon (1/2-3/4T) E-250 Club Wagon (3/4T) E-150 Econoline (1/2-3/4T) E-250 Econoline (3/4T)
	GMC	G1500 Rally Wagon (1/2T) G2500 Rally Wagon (3/4T) G1500 Vandura (1/2T) G2500 Vandura (3/4T) Safari Cargo Van*
	Toyota	Cargo Van**
	Volkswagen	Vanagon Camper
Pickups	Chevrolet	C10/K10 (1/2T) C20/K20 (3/4T) El Camino S10

(See notes on page 27)

PART B: VANS, PICKUPS, AND UTILITY VEHICLES (Cont'd)

VEHICLE CLASS	MAKE	SERIES
Pickups	Dodge	D-50 D150/W150 (1/2T) D250/W250 (3/4T)
	Ford	F-150 (1/2-3/4T) F-250 (3/4T) Ranger
	GMC	Caballero C1500/K1500 (1/2T) C2500/K2500 (3/4T) S15
	Isuzu	Long Bed Standard Bed
	Jeep/AMC	J10/J20 (1/2-3/4T) Scrambler
	Mitsubishi	Standard Bed
	Nissan	King Cab Long Bed Standard Bed
	Subaru	Brat
	Toyota	Long Bed (1/2T) Standard Bed Xtra Cab** 4Runner**

(See notes on page 27)

PART B: VANS, PICKUPS, AND UTILITY VEHICLES (Cont'd)

VEHICLE CLASS	MAKE	SERIES
Utility Vehicles	Chevrolet	C10/K10 Suburban (1/2T) C20/K20 Suburban (3/4T) K10 Blazer (1/2T) S10 Blazer
	Dodge	AD150/AW150 Ramcharger (1/2T)
	Ford	Bronco Bronco II**
	GMC	C1500/K1500 Suburban (1/2T) C2500/K2500 Suburban (3/4T) K1500 Jimmy (1/2T) S15 Jimmy
	Isuzu	Trooper II**
	Jeep/AMC	Cherokee** CJ-7 Grand Wagoneer Wagoneer**
	Mitsubishi	Montero
	Toyota	Land Cruiser S/W

* 1985 Models Only
** 1984 and 1985 Models Only
*** 1983 and 1985 Models Only

Models contributing less than 100 insured vehicle years of exposure are not listed.

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